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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,059	05/04/2001	Igor Igorevitch Diakonov	57.0386	9077

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Intellectual Property Law Department
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EXAMINER	
TUNG, TA HSUNG	
ART UNIT	**PAPER NUMBER**
1753	

DATE MAILED: 06/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/849,059	Applicant(s) DIAKONOV ET AL
	Examiner T. TUNG	Group Art Unit 1753 / Paper No. 6

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

☐ Responsive to communication(s) filed on _____.

☐ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

☑ Claim(s) 1-12 is/are pending in the application.

Of the above claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☑ Claim(s) 1-12 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claim(s) _____ are subject to restriction or election requirement

Application Papers

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119 (a)-(d).

☐ All ☐ Some* ☐ None of the:

☐ Certified copies of the priority documents have been received.

☐ Certified copies of the priority documents have been received in Application No. _____.

☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a))

*Certified copies not received: _____.

Attachment(s)

☑ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☑ Notice of Reference(s) Cited, PTO-892

☐ Notice of Informal Patent Application, PTO-152

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Other _____

Office Action Summary

Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 7, it is unclear if applicant intends to positively claim the wellbore effluent. This effluent is a material being worked on and should not be positively claimed. However, the wording "wherein said electrodes and connector form said potentiometric sensor exposed in operation to said wellbore effluent via an opening or sample channel" (e.g. claim 1, lines 5-7) appears to claim the wellbore effluent. Similarly, it is unclear if the "opening or sample channel" is being positively claimed or not.

Claims 5 and 11, is the "wellbore" being positively claimed?

Claims 1-6, stripped of intended use language in the preambles, are not seen to be distinct from claims 7-12 respectively, since no structural difference has been recited between the two sets of claims.

Claim 1, lines 4 and 9, --electrode-- should be added after "reference".

Claim 1, last line, --a- should be added after "of".

Claim 7, lines 5 and 10, --electrode-- should be added after "reference".

Claim 7, last line, --a-- should be added after "of".

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Fang 5,518,590, Hansen etal 4,018,660 or Matsuoka etal 4,861,453.

Fang discloses a measuring electrode 11, a reference electrode 13 and a connector in the form of a liquid or gel interphase 19 retained by a membrane 21 connecting the two electrodes to ensure electrolytic conductivity between them. See col. 3 line 48 to co. 4, line 16; col. 5, lines 10-26; col. 6, lines 23-47. In regard to claim 2, the membrane 21 is certainly a porous material. Otherwise, the sample would not be able to reach the interphase and the electrodes.

Hansen discloses a measuring electrode 7, a reference electrode 6 and a connector 4 in the form of a solution-saturated porous plug connecting the two electrodes to ensure electrolytic conductivity between them. See col. 4, lines 3-33.

Matsuoka discloses an electrode 5, a reference electrode 4 and a connector 26 in the form of a solution-saturated porous element 26 connecting the two electrodes to ensure electrolytic conductivity between them. See col. 8, line 37 to col. 9, line 9.

Applicant's claims are not considered to define any structural distinction over the patents, since the preambles merely recite intended use. Also, it is not evident that the "wellbore" or "wellbore effluent" is being positively claimed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seers (reference CY in the 11/12/02 IDS), Bolviken etal (reference CW in the IDS) or WO 99/56120 in view of Fang, Hansen etal or Matsuoka etal.

If the wellbore and the wellbore effluent are construed to be positively recited in the applicant's claims, they differ from Fang, Hansen or Matsuoka in that respect.

Seers (the title, page 1, figures 1 and 2), Bolviken (the title, pages 415-416, figure 1) or WO(page 3, line 24 to page 5, line 14) discloses an electrolytic sensor for measuring a liquid sample in a drill hole. Applicant's claims differ by calling for a connector between the electrodes of the sensor to ensure electrolytic conductivity between them.

As discussed before, Fang, Hansen or Matsuoka discloses a connector comprising a porous material and an aqueous solution or gel for connecting the electrodes of a sensor to ensure conductivity between them. It would have been obvious for Seers, Bolviken or WO to incorporate a conductrivity connector between the electrodes in view of Fang, Hansen or Matsuoka so as to ensure the continuous conductivity between the electrodes. This is especially so when the sample is a non-conductor (e.g. oil) or tends to foul the electrodes, as discussed at col. 3, lines 48-67 of Fang.

Claims 4, 5, 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fang, Hansen etal or Matsuoka etal in view of Yonco etal 4,818,366.

These claims differ by calling for the reference electrode to have a discharge element for releasing a solution or gel into the connector.

Yonco discloses a bladder 47 for transmitting the ambient pressure and ensuring a discharge from a reference electrode. See col. 3, lines 28-65. It would have been obvious Fang, Hansen or Matsuoka to adopt the discharge means of Yonco to ensure a continuous discharge from their reference electrodes into a sample and thus prevent sample backup into the reference electrodes.

Claims 4, 6, 10, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fang, Hansen etal or Matsuoka etal in view of Whitehead etal 3,410,779.

These claims differ by calling for an external control means to ensure a continuous discharge from the reference electrode into a sample liquid.

Whitehead discloses a piston 44 arranged externally of a reference electrode 118 for ensuring a continous discharge from the reference electrode through opening 176. See col. 2, line 31 to col. 4, line 25. It would have been obvious for Fang, Hansen or Matsuoka to adopt the externally disposed discharge control means of Whitehead to ensure a continuous discharge in their reference electrodes and thus prevent sample backup.

Claims 4, 5, 10, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seers (CY), Bolviken etal (CW) or WO 99/56120 in view of Fang, Hansen etal or Matsuoka etal and Yonco etal.

These claims differ by calling for a self-discharge element for the reference electrode. As discussed before, Yonco renders that obvious.

Claims 4, 6, 10 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seers (CY), Bolviken etal (CW) or WO 99/56120 in view of Fang, Hansen etal or Matsuoka etal and Whitehead etal.

These claims differ by calling for an externally disposed discharge means. As discussed before, that is rendered obvious by Whitehead.

Claims 1-3, 7-9 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 99/56120.

WO discloses a well bore sensor comprising a measuring electrode 18b, a reference electrode 18d and a porous plate 26 that will act to retain an aqueous sample. The plate 26 along with the retained aqueous sample would then act as a connector between the electrodes. See page 3, line 24 to page 5, line 14.

The Russian language documents cited in the 11/12/02 IDS have not been considered in that no translation or detailed explanation thereof were submitted.

Copies of documents DA and DB of the IDS have titles that are not the same as those listed in the IDS. Also, the pages of the documents do not match those listed. Further, the documents are in English, not Russian (as alleged in the IDS). Clarification is required. The examiner's initials of the DA and DB documents are for the copies of the DA and DB documents submitted, not the ones listed in the IDS.

The copy of document AT has less pages than the 127 pages stated in the IDS.

Joseph 5,489,371 appears to correspond with DE 4225904 (docment AK in the IDS).

Gottermeier 4,273,639 discloses a porous connector 44 between two electrodes. See figure 3.

The examiner can be reached at 703-308-3329. His supervisor Nam Nguyen can be reached at 703-308-3322. Any general inquriy should be directed to the receptionist at 703-308-0661. A fax number for TC 1700 is 703-872-9310.

Ta Tung

Primary Examiner

Art Unit 1753